COMMENTS ON THE SAN BERNARDINO COUNTY STORM WATER PROGRAM'S DECEMBER 2003 MODEL WATER QUALITY MANAGEMENT PLAN GUIDANCE

I. General Comments:

01. We realize that it is a resource intensive process to develop a model water quality management plan (WQMP) that is acceptable to the co-permittees and other stakeholders. Recently, the Orange County MS4 permittees went through this process. On September 26, 2003, the Regional Board authorized the Executive Officer to approve the WQMP for Orange County MS4 permittees. Many of the site design, source control and treatment control measures included in the Orange County WQMP are universally applicable to other projects. We had recommended to the San Bernardino County permittees that the approved WQMP for Orange County be used as a template for developing the San Bernardino County WQMP. San Bernardino County permittees have the same consulting firm that helped Orange County with their WQMP, Camp Dresser & McKee, Inc., to help them with their WQMP. The permittees and their consultants were fully aware of the Orange County WQMP. The permittees could have saved a significant amount of resources by using the Orange County WQMP as a guide for the program. However, it appears that the WQMP that was submitted by the permittees did not benefit much from the approved Orange County WQMP. The submitted plan neither meets the goals and objectives of the WQMP specified in the Permit (Permit = Order No. R8-2002-0012) nor has it included appropriate sections of the Orange County WQMP. This forces us and other interested parties to dedicate considerable amount of resources to review and comment on the inadequacy of the submitted WQMP.

02. We had also recommended that all stakeholders be invited to participate in the WQMP development process from the early stages of the process. However, the comments received from NRDC and Defend the Bay indicate that there was only limited public participation.

03. An inherent weakness in considering individual projects as they are proposed at different times and at scattered locations is that the management plan prescribed for any one site occurs in isolation from other watershed sites and activities. A WQMP should consider the cumulative impacts of all the projects. Section XII of the Permit requires the permittees to minimize the short and long-term impacts on receiving water quality from new developments and re-developments within its jurisdiction. Section XII.A requires the permittees to review/revise their planning documents such as CEQA and General Plan. The progress report on this requirement is to be submitted with the 2003-04 annual report. A review of the 2002-03 annual report indicates that a number of cities still have not included storm water concerns in their documents related to CEQA, General Plan, Specific Plan and Master Plans. For an effective new development/redevelopment program, it should start with the planning process.

If the permittees are not considering storm water impacts during the planning process, and through each stage of the project, it may not be possible to implement cost-effective programs for the various stages of the project and to consider the cumulative impacts resulting from various projects within the watershed.

04. The WQMP should be developed in conjunction with the Permit requirements and the commitments made by the permittees in the Report of Waste Discharge (ROWD), including the Municipal Storm Water Management Program (MSWMP). It appears that the permittees have not considered the commitments made in the MSWMP in developing the WQMP.

II. Specific Comments:

01. Table of Contents

Please correct the page number for Section 1.3; it begins on page 1-2, not 1-3.

02. Executive Summary

a. Page E-1, first paragraph, second and third sentences: The Permit requires the WQMP to address pollutants from all phases of a new development and significant redevelopment project, not merely post-construction best management practices (BMPs).

b. Page E-1, 2nd paragraph, the first bulleted item: Please note that the best available technology (BAT) and best conventional technology (BCT) standards are applicable to all phases of construction.

c. Page E-1, 2nd paragraph, the bulleted items: We recommend that the following be added (second bulleted item is a revision) to the list of items.

- The project shall consider low impact development principles in the use of site design BMPs (refer to pages 2-11 to 2-13).
- The discharge of any listed pollutant to a water body listed on the 303(d) list shall not cause or contribute to a lowering of water quality standards which include water quality objectives, beneficial uses, and the State's policy on anti-degradation.
- The discharge of any listed pollutant to an impaired water body on the 303(d) list shall require an offset (e.g., no net loading) for any additional loading from the proposed project to ensure no further degradation of the impaired water body.

d. Page E-1, last paragraph, last two sentences: Please note that once the WQMP is approved, it becomes an enforceable part of the Permit and it

shall be applicable to all permittees. These two sentences must be revised to reflect this.

03. Section 1.1, Introduction, Page 1-1:

    a. All references to "post-construction BMPs" should be replaced with appropriate wording to include "all phases of a project" (see 2.a., above).

    b. The introduction should have more emphasis on design principles using low impact development.

    c. Bulleted items: Revise as per 2.c., above.

04. Section 1.2, Page 1-1:

    a. First Paragraph: We recommend that a WQMP be required for all new and redevelopment projects.

    b. 1st sentence: Please change the sentence structure to indicate that the project proponents must develop, submit, and implement a WQMP.

05. Section 1.3, WQMP Development Approach, Page 1-2:

    a. Figure 1-1, Step 1: We recommend requiring a WQMP for all projects.

    b. Steps 2, 3, 4 and 5: These steps should reference the appropriate tables and other attachments where this information is provided.

    c. Steps 5, 6 and 7: If the project proponent is proposing to participate in an approved regional water quality control program, that program must be identified.

    d. Page 1-3: Please indicate that a WQMP is also required for public agency projects.

06. Section 2.1, first bullet, Page 2-1: In many cases the project proponent is different from the property owner. Therefore, it is advisable to have information about the project proponent and the property owner. Please require property owner information if different from owner of the project.

07. Section 2.2, Watershed Impact of Project: In addition to considering the project impact on the watershed, the cumulative impacts should also be considered. We also recommend that this discussion be moved to the end of this subsection. Section 2.2.1 should be 2.2; Section 2.2.2 should be 2.2.1 and Section 2.2 should be moved to 2.2.2.

08. Section 2.2.1, Identify Pollutants of Concern, Page 2-1:

a. Attachment C includes a discussion on pesticides, trash and debris and oxygen-demanding substances. However, these are not included in Table 2-1; please revise Table 2-1 to include these pollutants.

b. First sentence, last paragraph, Page 2-1: It is not clear what is the "special consideration" required for pollutants to impaired water bodies; please describe "special consideration".

c. First sentence, last paragraph, Page 2-1: Please replace the reference to "impairment of beneficial uses" with "impairment of water quality standards".

09. Section 2.2.2, Identify Hydrologic Conditions of Concern, Page 2-2:

a. Second sentence in the 1st paragraph of this subsection states, "Under certain circumstances, changes could also result in the reduction in the amount of available sediment for transport; storm flows could fill this sediment-carrying capacity by eroding a downstream channel." We recommend that you include a course of action to remedy this situation. For example, introduce the concept of integrated storm water controls throughout the urban landscape using principles included in publications such as Start at the Source (1999) and Low Impact Development Design Strategies (1999). Section 2.3.2 has identified some of these ideas. One of the goals of the WQMP should be to maintain the geomorphic equilibrium in the channel.

b. Section 2.2.2, Pages 2-2 and 2-3: The criteria (Criterion A and Criterion B) for determination of hydrologic conditions of concern seem to be predicated upon some non-existent documents. Please note that all the permittees do not have a Master Plan or other documents that fully address the cumulative hydrologic impacts of proposed projects (see Page 2-13, Table 2-2 of the 2002-03 Annual Report).

10. Section 2.3, Best Management Practices, Page 2-3:

a. Please stress the importance of site design principles early on in the project.

b. First paragraph, last sentence: Replace "an exceedance of receiving water quality objectives" with "an exceedance of water quality standards".

c. Last paragraph, last sentence: Only Table 2-2 is referenced for examples of required site design BMPs. Please include a reference to the site design BMPs listed on Pages 2-11 and 2-12.

11. Page 2-6. Section 2.3.1, Site Design and Source Control BMPs:

    "For developments with POA or residential projects of more than fifty (50) dwelling units, project conditions of approval will require that the POA provide environmental awareness education materials." The project proponent should be responsible for the education materials where there is no POA or until the POA is established.

12. Page 2-6. Section 2.3.1, Site Design and Source Control BMPs – Administrative BMPs – Education for Property Owners, Tenants, and Occupants

    Since the permittees have already developed public information brochures, it is a good idea to include copies of these brochures as attachments to the WQMP.

13. Section 2.3.1, Page 2-6, Activity Restrictions, last sentence: Please note that the pesticide applicators are licensed by the Department of Pesticide Regulations and not by the Department of Food and Agriculture.

14. Section 2.3.1, Page 2-7, Design BMPs, Landscape Planning:

    a. Either a copy of the County Administrative Design Guidelines should be included with the WQMP as an attachment or indicate where a copy could be obtained.
    b. This section should include a discussion on hillside landscaping, especially protection of slopes.
    c. Landscape planning should consider designing a vegetative barrier and/or preserving natural vegetative barrier along the property boundary and interior watercourses to act as a storm water filter, where appropriate and feasible. This section should also include discussion on using native and/or drought resistant plants.

15. Section 2.3.1, Page 2-7, Design BMPs, Efficient Irrigation System:

    a. The irrigation systems should consider the use of flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
    b. Other devices described in the current New Development Guidelines such as programmable irrigation timers (for short cycles), water sensors, etc., should be included in this discussion.

16. Section 2. 3.1, Page 2-7 Insert provisions for protection of slopes and channels as follow (these are taken from the Orange County WQMP):

    1. Convey runoff safely from the tops of slopes.

2. Avoid disturbing steep or unstable slopes.
3. Avoid disturbing natural channels
4. Install permanent stabilization BMPs on disturbed slopes as quickly as possible.
5. Vegetate slopes with native or drought tolerant vegetation.
6. Control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems.
7. Install permanent stabilization BMPs in channel crossings as quickly as possible and ensure that increases in runoff velocity and frequency caused by the project do not erode the channel.
8. Other design principles those are comparable and equally effective.

17. Section 2.3.1, Page 2-7, Storm Drain Signage: These signs must be maintained and a responsible party for its maintenance should be identified in the WQMP.

18. Section 2.3.1, Page 2-8, Energy Dissipator:

    a. Add "Energy dissipators shall be installed in such a way as to minimize impact to receiving waters."

       Riprap is the only design structure included here. Riprap and other concrete–based methods may not be the most protective of water quality. Other methods for managing flow velocity and volume must be considered. A good reference for considering other measures is Ann Riley's book that discusses alternatives to concrete (see following citation).
       "A Primer on Stream and River Protection for the Regulator and Program Manager," by Ann L. Riley, San Francisco Regional Board. The Primer can be accessed on the internet at www.swrcb.ca.gov/rwqcb2/Agenda/04-16-03/Stream%20Protection%20Circular.pdf.

19. Section 2.3.1, Page 2-8, Areas and Activity Control BMPs, Fueling Areas:

    a. "Spilled material within the fuel dispensing area must be prohibited from draining to the street or storm drain system." The material should also be prohibited from draining off-site.

    b. Specify that fueling areas should drain to the project treatment control BMPs, prior to off-site discharge.

20. Section 2.3.1, Page 2-9, Trash Storage Areas and Litter Control:

    Add the following: "Trash area drains, if any, must not be allowed to discharge offsite or connected to the municipal storm drain system."

21. Section 2.3.1, Page 2-9, Maintenance Bays and Docks:

    Last sentence – Please revise to state "Below-grade loading docks from grocery stores and warehouse/distribution centers of fresh food items should drain through water quality inlets, or to an engineered infiltration system, or an equally effective alternative reviewed and approved by the Agency".

22. Section 2. 3.1, Page 2-9, Vehicle Washing Areas, First Paragraph, last sentence: Please revise to state "Wash and rinse waters from this area must either be directed to the sanitary sewer (with prior approval of the sewering agency), to an engineered filtration system, or an equally effective alternative reviewed and approved by the Agency".

23. Section 2.3.1, Page 2-10, Outdoor Material Storage Area:

    Add the following language: " Any storm water retained within the containment structures must not be discharged to the street or to the storm drain system."

24. Section 2.3.1, Page 2-10, Outdoor Work Areas:

    "Where vehicle or equipment repair/maintenance occurs, impermeable berms, trench drains, or containment structures shall be provided around the repair area bays to eliminate or reduce spilled materials and wash-down waters from entering the storm drain system."

    Add the following language: " Any storm water retained within the containment structures must not be discharged to the street or the storm drain system.

25. Section 2.3.1, Page 2-10, Outdoor Processing Areas

    Add the following language: "Outdoor process equipment operations such as rock grinding or crushing, painting or coating, grinding or sanding, degreasing or parts cleaning, landfills, waste piles, and wastewater and solid waste treatment and disposal, and other operations determined to be a potential threat to water quality by the permittees shall adhere to the following requirements:

    1. Cover or enclose areas that would be sources of pollutants, or slope the area toward a sump that will provide infiltration or evaporation with no discharge; or, if there are no other alternatives, discharge of non-stormwater flow to the sanitary sewer may be considered only when allowed by the local sewering agency through a permitted connection.
    2. Grade or berm area to prevent run-on from surrounding areas.
    3. Installation of storm drains in areas of equipment repair is prohibited.

4. Other comparable or equally effective features that prevent unpermitted discharges to the municipal storm drain system.

26. Section 2.3.1, Page 2-10, Street Sweeping Private Streets and Parking Lots:

    Specify that sweeping should take place on a regular basis and in the late summer or early fall prior to the onset of rainy season.

27. Section 2.3.1, Page 2-10, Wash Water Controls for Food Preparation Areas:

    Signs should be posted stating the prohibition on discharging of washwater to the storm drain system.

28. Section 2.3.1, Page 2-11, Common Area Catch Basin Inspection:

    a. Replace all references to catch basins with “drainage facilities (inlets, open channels and basins)”.

    b. Specify that annual inspections should take place in the late summer or early fall.

    c. Require that the responsible party for post-construction operation and maintenance of drainage facilities shall evaluate all portions of the drainage facilities annually to determine the need for increasing the inspection and maintenance frequency. This information shall be reported to the Agency.

    d. Catch basins must be inspected annually and cleaned on an “as needed” basis and when they are filled 25% or more.

29. Section 2.3.2, Page 2-11. Site Design BMPs

    “These same practices, because they reduce the volume and usually the rate of runoff, also have the benefit of reducing the amount of stormwater that must be treated before being discharged or to be treated in regional facilities.”

    Add the following language: These low impact design principles offer an innovative approach to urban stormwater management by uniformly or strategically integrating stormwater controls throughout the urban landscape. Useful resources for applying these principles include Start at the Source (1999), and Low Impact Development Design Strategies (1999). “

30. Section 2.3.2.1, Page 2-11. Minimize Stormwater Runoff, Minimize Project’s Impervious Footprint, and Conserve Natural Areas:

Rain gardens are another way to infiltrate water and may be applied on individual lots or larger areas.

31. Section 2.3.2.1, Page 2-12, Maximize the permeable area: Add the following paragraph:

    "Runoff from developed areas may be reduced by using alternative materials or surfaces with a lower Coefficient of Runoff, or "C Factor". The C factor is a representation of the ability of a surface to produce runoff. Surfaces that provide higher runoff volumes are represented by higher C factors. By incorporating more pervious, lower C factor surfaces into a development, lower volumes of runoff will be produced. Lower volumes and rates of runoff translate directly to lowering treatment requirements.

32. Section 2.3.2.1, Page 2-12, Conserve natural areas: If the County has a Multi-species Habitat and Conservation Plan, it must be referenced here.

33. Section 2.3.3, Page 2-14, Treatment Control BMPs: Delete the first paragraph and replace with the following paragraphs:

    "Minimizing a development's detrimental effects on water quality can be most effectively achieved using a combination of Site Design, Source Control and Treatment Control BMPs. Where projects have been designed to eliminate or reduce the introduction of expected pollutants of concern into the municipal storm drain system or the receiving waters through the implementation of Site Design and Source Control stormwater BMPs, the development may still have the potential for pollutants of concern to enter the municipal storm drain system or receiving waters that must be addressed by Treatment Control BMPs.

    WQMP-required projects shall be designed to remove pollutants of concern from the municipal storm drain system to achieve the appropriate standard, as specified in the Third Term Permit, through the incorporation and implementation of Treatment Control BMPs.

    On-site Treatment Control BMPs are necessary to meet the requirements in this section, WQMP-required projects shall implement a single or combination of stormwater treatment BMPs that will remove anticipated pollutants of concern from site runoff and achieve the appropriate standard. Treatment Control BMPs must be implemented unless a waiver is granted to the project by the Agency, based on the infeasibility of any Treatment Control BMPs and participation in an offset program.

    Where approved regional or watershed management programs are available within the downstream watershed to address the pollutants of concern from new development and significant redevelopment, a project may participate in a regional or watershed program. At this time, no regional or watershed

management programs are being proposed as part of this Model WQMP for Regional Board staff approval. Local implementation plans may include proposals for sub-regional programs for Regional Board staff approval. The regional or sub-regional plans are subject to public review and comments and may be presented to the Regional Board for consideration."

34. Section 2.3.3, Page 2-14, Treatment Control BMPs:

    CASQA handbook, New Development and Redevelopment, Appendix C, provides pollutant removal effectiveness information for multiple BMPs. This information would be useful to reference in this section as well to assist the applicant in the selection of site-specific BMPs.

35. Section 2.3.3, Page 2-14, Treatment Control BMPs:

    a. Please include a selection procedure and a pollutant-based treatment BMP selection matrix to guide project proponents.
    b. Clarify that Class V requirements would apply if the infiltration BMP meets definition of the Class V disposal wells.
    c. Please identify appropriate agency and state when coordination with the local water purveyor or agencies may be required to ensure that proposed infiltration BMPs do not cause or contribute to a degradation of groundwater quality.
    d. A discussion of limitations and guidance for infiltration practices is contained in Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration, Report No. EPA/600/R-94-051, USEPA (1994). Please include this as a reference.

36. Section 2.3.3, Page 2-15, Flow Based Treatment Control BMPs and Volume Based Treatment Control BMPs: These sections need a better introduction for the discussions that follow.

37. Section 2.3.3, Page 2-15, Bioretention

    "Bioretentions require frequent landscape maintenance, including measures to ensure that the area is functioning properly, as well as maintenance of the landscaping on the practice." Please clarify "landscaping on the practice."

38. Section 2.3.3, Page 2-16, Infiltration Basin: Please include a brief description of pre-treatment BMPs.

39. Section 2.3.3, Page 2-17, Infiltration Trench:

"Infiltration ***basins*** should not be put into operation until the upstream tributary area is stabilized." If the reference here to infiltration basin is correct, this sentence should be in the previous section.

40. Section 2.3.3.1, Page 2-18: Volume Based Design: Please include sample calculations in an attachment or appendix.

41. Section 2.3.4, Page 2-19, Equivalent Treatment Control Alternatives:

    a. Please provide an explanation of an equivalent off-site treatment control compared to regional or sub-regional treatment systems.

    b. The Guidance states that "…equivalent treatment may be provided off site when approved by the Agency," and then lists certain conditions when equivalent treatment can be used. However, there are certain circumstances and site conditions, which would make off–site treatment unacceptable. For example, if the site drains directly to sensitive habitat, or to impaired water bodies; or, if discharge from the site leads to or causes localized water quality impairment or an increase in loading of constituents of concern.

       The Guidance should list conditions and circumstances under which equivalent off–site treatment cannot be used. Further, the Guidance should state the appropriate reporting requirement to Regional Board staff for co-permittee approval of an equivalent treatment system.

42. Section 2.4, Page 2-20, Operations and Maintenance:

    a. "Identification of the responsible parties for O&M, including a written agreement with the entities responsible for O&M."

       Specify the requirements of identification (e.g. name, address, phone number, contact person, etc).

    b. Please include a discussion of various acceptable long-term operation and maintenance mechanisms. Include these options in the WQMP template for the project proponent to choose.

43. Page 2-20: Include permit closeout requirements for a verification process to ensure that the provision of the Project WQMP have been completed prior to issuance of certificates of use and occupancy. Please refer to language from Orange County WQMP, Section 7.II-5.2.

44. Section 3, Page 3-1, Regional-Based Water Quality Control: Any regional or sub-regional water quality treatment control systems should be submitted to the Regional Board office for approval. These will be publicly noticed and if there

are no significant comments, and if the system meets the Permit requirements, the Executive Officer will approve these systems. In case of significant controversies, the Regional Board will conduct a public hearing.

45. Section 4.1, Page 4-1, Changes in Site Development:

    When there are changes in the site development plans, the WQMP must be updated. For significant changes, the WQMP should be re-certified by the Agency.

46. Section 4.2, Page 4-1, Changes in Site Ownership: Include a discussion on how responsibilities for implementing the WQMP provisions will be transferred. Also, please include a template for an agreement between the current property owner and the new property owner for transfer of responsibility.

47. Section 1.1, Page A-5, Project Information:

    "Name of property owner."

    Although the address of the property owner is required on the title page, it should also be included in here along with a contact number for the owner.

48. Section 3.1, Page A-6, Structural Control BMPs:

    a. "Complete the following selection table for Source Control BMPs." Provide instruction on how to complete the table. For example, "check the box(es) of selected BMPs."

    b. Is the header intended to be Source Control BMPs rather than Structural Control BMPs?

    c. The source control BMPs selection matrix is not complete. Please review for completeness.

49. Section 3.2, Page A-7, Site Design BMPs: The site design principles should be listed. We suggest the attached format excerpted from the Prince George's County, MD, Low Impact Development Design Strategies: An integrated Design Approach. Largo Maryland.

50. Section 3.3, Page A-7, Treatment Control BMPs:

    a. "Complete the following table for Treatment Control BMPs." Provide instruction on how to complete the table. For example, "check the box(es) of selected BMPs."

b. Provide detailed descriptions on the "location", implementation, "installation, long-term O&M" of planned Treatment Control BMPs.

51. Section 4.1, Page A-10, O&M Description and Schedule:

    a. There are two Section 4.1. This section is either 4.1.3 or 4.2. Please revise.
    b. "Provide the party or parties that will be responsible for each BMP O&M."
    c. Indicate that for each responsible party, information should include the responsible party's name and address and a contact name and phone number.

52. Section 5.1, Page A-10, Funding:

    "Indicate funding sources or sources for O&M for this project." Specify that, for each funding source, information should include the responsible party's name and address and a contact name and phone number.

53. Section 6.1, Page A-11, Certification:

    In Section 6, or elsewhere in the document, define signatory qualifications. We would prefer the owner unless a written designation by the owner allows a designee to sign on behalf of the owner.

    Please include the following language in the Certification.

    "This Water Quality Management Plan has been prepared for (Owner/Developer Name) by (Consulting /Engineering Firm Name). It is intended to comply with the requirements of the City of (name city or county) for Tract/Parcel Map No. _____, Condition Number(s) _____ requiring the preparation of a Water Quality Management Plan (WQMP). The undersigned is aware that Best Management Practices (BMPs) are enforceable pursuant to the City's/County's Water Quality Ordinance No. _____. The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with San Bernardino County's Municipal Stormwater Management Program and the intent of the NPDES Permit for San Bernardino County and the incorporated cities of San Bernardino County within the Santa Ana Region. Once the undersigned transfers its interest in the property, its successors in interest and the city/county shall be notified of the transfer. The new owner will be informed of its responsibility under this WQMP. A copy of the approved WQMP shall be available on the subject site in perpetuity. "

54. Please include a glossary of acronyms and terms used in the WQMP document.